# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/693,575 | 10/19/2000 | Djuphammar O. Hakan | 253/099 | 8163 |

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| EXAMINER |
|---|
| JUNTIMA, NITTAYA |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2663 | 11 |

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| <br>Office Action Summary | Application No.<br>09/693,575 | Applicant(s)<br>HAKAN, DJUPHAMMAR O. |
|---|---|---|
| | Examiner<br>Nittaya Juntima | Art Unit<br>2663 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)☒ Responsive to communication(s) filed on *30 April 2004*.

2a)☐ This action is **FINAL**.      2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)☒ Claim(s) *1-60* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-2,7,12-25,29-32,36-60* is/are rejected.

7)☒ Claim(s) *3-6,8-11,26-28 and 33-35* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

## Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All  b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
   application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

## DETAILED ACTION

1.      This action is in response to the amendment filed on 4/30/2004.

2.      The objections to the drawings, specification, and claims are withdrawn in view
of applicant's amendment.

3.      Claims 12-14, 29, and 39-42 are rejected under 35 U.S.C. 112, second paragraph.

4.      Claims 3-6, 8-11, 26-28, and 33-35 are objected to as being dependent upon a
rejected base claim, but would be allowable if rewritten in independent form including all
of the limitations of the base claim and any intervening claims.

5.      Claims 1, 7, 12, 14-16, 18-20, 24-25, 29, 32, 36, 39, 41, 43, and 45-47 are rejected
under 35 U.S.C. 102(b).

6.      Claims 2,13, 17, 21-23, 30-31, 37-38, 40, 42, 44, and 48-60 are rejected under 35
U.S.C. 103(a).

### *Oath/Declaration*

7.      The oath or declaration is defective.  A new oath or declaration in compliance
with 37 CFR 1.67(a) identifying this application by application number and filing date is
required.  See MPEP §§ 602.01 and 602.02.

        The oath or declaration is defective because: the U.S. Provisional Application
Serial No. 60/187,547 with a filing date of March 7, 2000 on which priority is claimed is
not identified.

### *Claim Objections*

8.      Claims 1-2,7, 12, 15, 19, 21, 30-31, 37-38, 42, 48-49, 52, and 58-60 are objected

to because of the following informalities:

        - in claims 1, 7, 12, 15, 21, 30-31, 37-38, 42, 48-49, and 59-60, "1xRTT"

and "HDR" should be spelled out to avoid any misinterpretation;

        - in claim 2, ll 3, "deleted" should be changed to "detected," see the

original claim;

        - in claim 19, ll 2, "a" in front of "transfer" should be deleted, see the

original claim; and

        - in claims 52 and 58, ll 1, "channel" should be changed to "channels."

        Appropriate correction is required.

## *Claim Rejections - 35 USC § 112*

9.      The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

        **Claims 12-14, 29**, and **39-42** are rejected under 35 U.S.C. 112, second paragraph,

as being indefinite for failing to particularly point out and distinctly claim the subject

matter which applicant regards as the invention.

        In claims 12 and 39, the limitation "the receiver" in line 4 of the claims lacks

antecedent basis.  The office is treating the limitation as "the terminal."

        In claims 14 and 41, the limitation "the second HDR carrier" in lines 3 and 5 of

claim 14 and "the second best-effort carrier" in lines 3-4 of claim 41 lacks antecedent

basis.  The office is treating these limitations as "the HDR carrier" and "the best-effort

carrier" for claims 14 and 41, respectively.

In claim 29, the limitation "the all-service communication" in line 1 of the claim

lacks antecedent basis. The office is treating the limitation as "the all-service

communications."

## Claim Rejections - 35 USC § 102

10.     The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11.     **Claims 1, 7, 12, 14-16, 18-20, 24-25, 29, 32, 36, 39, 41, 43, and 45-47** are

rejected under 35 U.S.C. 102(b) as being anticipated by Willars et al. (USPN 5,533,014).

Per **claim 1**, as shown in Fig. 2B, Willars et al. teach (a) tuning *the terminal* (MS

in Fig. 1) to *a HDR carrier* (a HDR carrier is not defined, reads on the first frequency in

which the coded info. signal of the compressed mode is transmitted, col. 5, ll 18-23), (b)

establishing *a packet data communication* (an informational data stream) over the HDR

carrier (a data stream must be established in order for the coded info signal to be

transmitted, col. 5, ll 12-23), (c) periodically tuning the terminal to *a 1xRTT carrier* (not

defined, reads on another frequency) for a limited time (idle part) in order to check for

*incoming 1xRTT communications* (signals transmitted on another frequency during idle

part) (col. 5, ll 24-35).

Per **claim 7**, as shown in Fig. 2B, Willars et al. teach (a) tuning *the terminal* (MS

in Fig. 1) to *a HDR carrier* (a HDR carrier is not defined, reads on the first frequency in

which the coded info. signal of the compressed mode is transmitted, col. 5, ll 18-23), (b)

establishing *a packet data communication* (an informational data stream) over the HDR

carrier (a data stream must be established in order for the coded info signal to be

transmitted, col. 5, ll 12-23), (c) while the packet data communication is in progress,

tuning the terminal to *a 1xRTT carrier* (not defined, reads on another frequency) (the MS

switches to another frequency during the idle part while the info in Fig. 2B is not

terminated) (col. 5, ll 24-30), and (d) establishing *1xRTT communication* (a new link

with another frequency) on the 1xRTT carrier (col. 5, ll 56-66).

Per **claim 12**, as shown in Fig. 2B, Willars et al. teach (a) periodically scanning

for *a HDR carrier* (not defined, reads on another frequency) (the MS must scan for

another frequency when switches to another frequency periodically for MAHO

measurements and evaluation, col. 5, ll 24-30), (b) tuning *the terminal* (MS in Fig. 1) to a

1xRTT carrier (1xRTT carrier is not defined, reads on the first frequency in which the

coded info. signal of the compressed mode is transmitted, col. 5, ll 18-23), (c)

establishing *a packet data communication* (an informational data stream) over the

1xRTT carrier after tuning in step (b) (a data stream must be established after tuning to

the first frequency in order for the coded info signal to be transmitted, col. 5, ll 12-23),

(d) periodically scanning for *a HDR carrier* (not defined, reads on another frequency)

once the terminal is tuned to the 1xRTT carrier (the MS must scan for another frequency

when switches to the other frequency periodically for MAHO measurements and

evaluation, col. 5, ll 24-30), (e) if a HDR carrier is available, tuning the terminal to the

HDR carrier (handover is performed when the other frequency is available and the

measurements justified, col. 5, ll 24-30 and 57-66), and (f) establishing the packet data

communication on the HDR carrier (col. 5, ll 57-66).

Per **claim 14**, Willars et al. teach (g) sending *a 1xRTT packet hand-over request* (reads on an inherent request in MAHO method) from the terminal to transfer the packet data communication from the 1xRTT carrier to the HDR carrier (col. 5, ll 36-42), and (h) handing the packet data communication over to the HDR carrier from the 1xRTT carrier (col. 5, ll 56-col. 6, ll 1-5).

Per **claim 15**, as shown in Fig. 1, Willars et al. teach *a transceiver* (a transceiver in the MS for receiving/transmitting data) to selectively tune to *a HDR carrier* (not defined, reads on the first frequency in which the coded info. signal of the compressed mode is transmitted) or to *a 1xRTT carrier* (not defined, reads on another frequency) (col. 5, ll 18-23, 39-43, and 57-66), *a processor* (an inherent processor must be in included to control the transceiver) configured to tune the transceiver to *the HDR carrier* to establishing *packet data communications* (an information data stream) and to tune to *the 1xRTT carrier* for establishing *1xRTT communications* (not defined, reads on an information data stream) (col. 5, ll 12-30 and 57-66).

Per **claim 16**, Willars et al. further teach periodically tuning the transceiver to the *1xRTT carrier* (the other frequency) to check for *incoming 1xRTT communications* (signals transmitted on another frequency during idle part) while a packet data communication is occurring over *the HDR carrier* (MS switches to another frequency during idle part while the communication on the first frequency is not terminated, col. 5, ll 18-30), and establishing *a 1xRTT communication* (a new link with another frequency) over the 1xRTT carrier when an incoming 1xRTT communication is detected in step (c ) (col. 5, ll 56-66).

Per **claim 18**, Willars et al teach tuning to a 1xRTT carrier, while a packet data

communication is taking place over a HDR carrier (switching to another frequency while

information on the first frequency is not terminated as shown in Fig. 2B, col. 5, ll 18-30),

and establish a 1xRTT communication over the 1xRTT carrier (a new link is established

over the other frequency, col. 5, ll 57-66).

Per **claim 19**, Willars et al. teach initiating *a 1xRTT packet hand-over request*

(reads on an inherent request in MAHO method) from the terminal to transfer the packet

data communication from the HDR carrier to the 1xRTT carrier (col. 5, ll 36-42).

Per **claim 20**, Willars et al. teach that the 1xRTT communication/all-service

communications include(s) *a broadcast information communication* (col. 5, ll 59-61).

**Claims 24-25,** and **29,** contain the similar limitations as recited in claims 1-2, and

20, respectively, with a best-effort carrier (not defined, reads on the first frequency) and

an all-service carrier (not defined, reads on the other frequency), and are therefore

rejected under the same reason set forth in the rejection of claims 1-2, and 20,

respectively.

**Claims 32** and **36** contain the similar limitations as recited in claims 7 and 20

with a best-effort carrier (not defined, reads on the first frequency) and an all-service

carrier (not defined, reads on the other frequency), and are therefore rejected under the

same reason set forth in the rejection of claims 7 and 20, respectively.

**Claims 39** and **41** contain the similar limitations as recited in claims 12 and 14,

respectively, with an all-service carrier (not defined, reads on the first frequency) and a

best-effort carrier (not defined, reads on the other frequency), and are therefore rejected

under the same reason set forth in the rejection of claims 12 and 14, respectively.

**Claim 43, 45, 46,** and **47** contain the similar limitations as recited in claims 15-16, 18, 19, and 20, respectively, with a best-effort carrier (not defined, reads on the first frequency) and an all-service carrier (not defined, reads on the other frequency), and are therefore rejected under the same reason set forth in the rejection of claims 15-16, 18, 19, and 20, respectively.

## *Claim Rejections - 35 USC § 103*

12.     The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13.     **Claims 2, 13, 17, 40, 44** are rejected under 35 U.S.C. 103(a) as being unpatentable over Willars et al. (USPN 5,533,014).

Per **claim 2**, Willars et al. teach establishing *a 1xRTT communication* (a new link with another frequency) over the 1xRTT carrier when an incoming 1xRTT communication is detected in step (c ) (col. 5, ll 56-66).

Willars et al. fail to teach (e) tuning the terminal back to the HDR carrier when the 1xRTT communication is terminated.

However, Willars et al. further teach performing a handover to improve call quality as justified by a down-link measurements and evaluation (col. 5, ll 36-45, 57-61 and col. 6, ll 46-54). Therefore, it would have been obvious to one skilled in the art to modify the teaching of Willars et al. such that step (e) tuning the terminal back to the HDR carrier when the 1xRTT communication is terminated would be included. The

suggestion/motivation to do so would have been to improve the call quality of a future

call by tuning back the previous frequency after completing a communication on the

other frequency if the down-link measurements and evaluation justifies the handover.

Per **claims 13** and **40**, Willars et al. teach a make-before-break handover method

(col. 5, ll 57-col. 6, ll 1-5), but fail to teach that the packet data communication on the

1xRTT carrier is terminated prior to step (e).

However, it is well known in the art that alternative to the make-before-break

handover method is a break-before-make handover method. Therefore, it would have

been obvious to one skilled in the art to modify the teaching of Willars et al. to terminate

the packet data communication on the 1xRTT/all-service carrier prior to step (e) as

recited in the claim. The suggestion/motivation to do so would have been to provide a

break-before-make handover method as an alternative option for system that does not

support make-before-break handover method.

Per **claims 17** and **44**, Willars et al. fail tot each tuning to a 1xRTT/all-service

when HDR/best-effort carriers are unavailable and to periodically scan for HDR carriers

until one is available, and tuning to a HDR/best-effort carrier when one is available.

However, Willars et al. teach scanning to other frequency periodically (scanning

must be included when switching to other frequency is performed, col. 5, ll 24-30 and 36-

39) and it is well known for a mobile station to roam into a new location where some

frequency may not be available and that some frequency is strongest in some particular

location. Therefore, it would have been obvious to one skilled in the art to modify the

teaching of Willars et al. such that the processor would be configured to tune to a

1xRTT/all-service when HDR/best-effort carriers are unavailable and to periodically scan

for HDR carriers until one is available, and wherein the processor would be configured to

tune to the a HDR/best-effort carrier when one is available. The suggestion/motivation to

do so would have been to enable the mobile station to switch other frequency when it

roams outside of the location served by the first frequency and to switch to the first

frequency when the mobile station roams back into the location where the first frequency

is strongest.

14.     **Claims 21-23, 30-31, 37-38, 42,** and **48-60** are rejected under 35 U.S.C. 103(a) as

being unpatentable over Willars et al. (USPN 5,533,014) in view of *"CDMA 's Data*

*Evolution"* by Melissa A. Sanzo (hereafter Sanzo).

Per **claims 21** and **53-60,** Willars et al. teach a plurality of terminals (MS in Fig.

1, col. 4, ll 55-63) configured to tune to the first frequency for establishing packet data

communications (first frequency on which data stream in transmitted, col. 5, ll 12-23) and

to tune to another frequency for establishing packet data communication (col. 5, ll 24-30

and 57-66). However, Willars et al. fail to teach a 1xRTT/all-service carrier and a HDR/

best-effort carrier and the claimed limitations as recited in the claims.

Sanzo teaches *a 1xRTT/all-service carrier* (1xRTT supports both packet and

circuit switched data services and is optimized for circuit switching, paragraphs 2 and 9)

configured to carry 1xRTT/all-service communications and packet data communications

and *a HDR/best-effort carrier* (HDR is designed to optimized packet-data services,

paragraph 5 and has multiplexed control and data channels) configured to carry packet

data communications.

Given the teaching of Sanzo, it would have been obvious to one skilled in the art

to replace the first frequency with the HDR/best-effort carrier and the other frequency

with the 1xRTT/all-service carriers. The suggestion/motivation to do so would have been

to enable the network to accommodate both the HDR/best-effort and the 1xRTT/all-

service carriers which are complementary technology as suggested by Sanzo (paragraph

3).

Per **claim 22**, Willars et al. teach that each terminal (MS in Fig. 1) is configured

to initiate a 1xRTT packet hand-over request (not defined, reads on an inherent handover

request in MAHO method) in order to transfer packet data communications from a first

frequency to another frequency (col. 5, ll 24-30, 34-46, and 61-66).

Per **claim 23**, it is inherent that each hand-over request will contain information

about a target base station controller associated with the other frequency that is the target

of the hand-over (col. 5, ll 39-46 and col. 3, ll 32-41).

Per **claims 30-31, 37-38, 42,** and **48-52**, Willars et al. fail to teach a 1xRTT/all-

service carrier and a HDR/best-effort carrier and supporting of real-time and non-real-

time services as recited in the claims.

Sanzo teaches a 1xRTT/all-service carrier which supports real-time and non-real-

time services and is optimized for circuit switched services (paragraphs 2 and 9), and a

HDR/best-effort carrier which supports only non-real-time services and is optimized for

best effort packet data services (paragraph 5, and HDR has time multiplexed control and

data channel as known in the art).

Given the teaching of Sanzo, it would have been obvious to one skilled in the art

to replace the first frequency with the HDR/best-effort carrier and the other frequency

with the 1xRTT/all-service carrier. The suggestion/motivation to do so would have been

to enable the network to accommodate both the HDR/best-effort and the 1xRTT/all-

service carriers which are complementary technology as suggested by Sanzo (paragraph
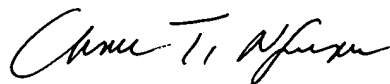
3).


### *Conclusion*

15.    Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Nittaya Juntima whose telephone number is 703-306-

4821. The examiner can normally be reached on Monday through Friday, 8:00 A.M -

5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chau Nguyen can be reached on 703-308-5340. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).


Nittaya Juntima
July 7, 2004

**CHAU NGUYEN**
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